

REMARKS

Very thanks for Examination's suggestion and thanks for finding some citations about the present invention, thereby, the applicant may know more information about the invention. This case has been carefully reviewed and analyzed in view of the office action. All details of the reference prior arts are fully considered and compared with the present invention.

Responsive to the objections and rejections made of the Examiner in office action. We have amended claims. All the errors disclosed in that office action has been corrected according to the Examiner's indications disclosed in the official action.

Indeed the citations disclose some features of the present invention, and the applicant agrees with these viewpoints, however applicant discovers that some main features of the present invention are not disclosed in the citation which can form the novelty and inventive step of the present invention.

To illustrate the novelty of the present invention and overcome the objection from the citations, the applicant decides to cancel Claims 1 to 6, without prejudice or disclaimer of the subject matter thereof, and add new claims 7 to 12. The added new claim 7 is based on the original claim 1 and the features in Figs. 1 and 2 of the present invention. The new claim 8, 9, 10, 11, and 12 are same as the original claims 2, 3, 4, 5 and 6, but now it is dependent to the new claim 6. The relation of the new claims with respect to the original claims are shown in the following.

Claims 1 to 6 (Cancelled)

Claim 7. (New) 4- A restorable conductive elastic connector comprising:

a connector capable of being sucked by a sucking unit 4 of a machining device 3; the connector being transferred by the machining device and then be adhered to a machining object;

the sucking unit has an air channel 41; the air channel 41 being extended with an outlet portion at a bottom of the sucking unit 4; the outlet section having a tapered shape; and an inner end of the tapered shape with a small opening being connected to one end of a straight channel 41 and the air channel having a sucking ability under negative pressure; characterized as:

wherein the ~~The~~ connector is made of conductive helical spring 11, 12, 13, which is wound as a sandglass; that is, a waist portion of the helical spring is narrower ~~narrow~~ than a top portion and a bottom portion thereof; and the top portion 11 of the helical spring is smaller than the bottom portion 13 and the connector can be sucked to the outlet section of the sucking unit.

Claim 8. (New) 2- The restorable conductive elastic connector as claimed in claim 1, wherein the machining device is a SMT (surface mounting technology) machining device used ~~using~~ in surface mounting device.

Claim 9 . (New) 3- The restorable conductive elastic connector as claimed in claim 1, wherein the machining object is a printed circuit board.

Claim 10. (New) 4- The restorable conductive elastic

connector as claimed in claim 1, wherein the machining object is conduction means for conducting electronic signals of an electronic device.

Claim 11. (New) ~~5~~ The restorable conductive elastic connector as claimed in claim 1, wherein the element is restorable in a reel tank.

Claim 12. (New) ~~6~~ The restorable conductive elastic connector as claimed in claim 1, wherein the conductive helical spring element is fixed to the machining object and then is sucked by a sucking unit and thus compressed so that the distance connected at a bottom of the sucking unit and a surface of the machining object is reduced.

DISCUSSION ABOUT THE NOVELTY OF THE PRESENT INVENTION

(A) Discussed about amendment in the new claim 6.

In the new claim 6 we add a feature of "an inner end of the tapered shape with a small opening being connected to one end of a straight channel 41"

This section is illustrated in Fig. 2, which is indicated by the numerals 42, 42 and 31.

Furthermore, in new claim 6, wec device add a feature of "and the top portion 11 of the helical spring is smaller than the bottom portion 13"

This feature is illustrated in Fig. 1 of the present invention, in that it is illustrated that the size of the top portion 11 is smaller than the bottom portion 13 of the spring.

(B) For the citation USP 6,239,393

Referring to Fig. 1 of the citation '393, it is illustrated that the top portion of the spring 3, is smaller than the middle portion 8 of the spring and the middle portion of the spring 8 is smaller than the bottom portion 04 of the spring. The relation of the top, middle and lower portions of the springs in the citation '393 and the present invention are different. In the present invention, the top portion 11 is greater than the middle portion 12, but is smaller than the bottom portion 13. The middle portion 12 has the smallest size in the prior art, as shown in Fig. 1 of the present invention.

Referring to Fig. 3 of the citation '393, it is apparent that the suction portion of the citation is different from that the present invention. This is assured in the office action, since the office action does not use this part to object the present invention. However in the present invention, the suction section 4 has a channel formed by elements 31, 41 and 42 which is different from the citation '393.

(C) For the citation USP 4,093,337

The citation '337 has a spring illustrated in Fig. 5. The top and bottom ends have identical size. Thus as above discussion in part (B), the spring in the citation '337 is different from the present invention.

Furthermore, the sucking unit in the citation '337 has no tapered section as the tapered section 42 in the citation. Thus, in this part, the citation '337 is very different from the present invention.

(D) For the combination of the USP 6,239,393 and USP 4,093,337

From above discussion, it is known that the two citations have the springs like that disclosed in the new claim 7, that is **"the top portion 11 is greater than the middle portion 12, but is smaller than the bottom portion."** The middle portion 12 has the smallest size in the prior art." as shown in Fig. 1 of the present invention. Thus, the combination of the two citations cannot get the spring of the present invention.

Thereby from above discussion, it is known that the citation has no tapered portion 42 of the present invention. Thus the combination of the two citations cannot get a sucking unit 4 (see Fig. 2 of the present invention).

From above discussion, it is known that the combination of all the citations cannot have no the main features of the new claim 7. Thus, the new claim 7 of the present invention is novel over the combination of the two citations.

(E) The function of the spring of the present invention will be described herein.

The smallest size of the middle portion 12 of the present invention makes the spring can be compressed greatly so as to have a smaller length, as shown in Fig. 5. Furthermore, the top portion 11 is smaller than the bottom portion 13 causes that the spring can be fitted into the tapered channel 42 of the present invention. The great size of the spring of the present invention make the spring can be steadily located on the plate 112. However these affect cannot be achieved by the citations.

(F) RESULT

Since in above discussion, it is apparent that no prior art has the features of the present invention, especially in new claim 7. Furthermore, as we know that no other prior art has features of the present invention.

Thus, the present invention is novel and inventive.

If there is any error in the specification, or claims, applicant requests and authorizes Examiner to amend the claims, specification and drawings of the present invention so that they can match the requirement of U. S. Patent. Attentions of Examiner to this matter are greatly appreciated.

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectively requested.

Respectfully submitted.

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